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Atoms in an External Magnetic Field RASULKHOZHA S. SHARAFIDDINOV, Institute of Nuclear Physics, Uzbekistan Academy of Sciences, Ulugbek, Tashkent 100214, Uzbekistan — The splitting of the spectral lines of atomic system in an external magnetic field is not a usual intraatomic transition. It would not take place in the case of the fundamental symmetry between electricity and magnetism being wholly absent. Therefore, we accept that each particle of electric mass and charge says in favor of a kind of monoparticle with magnetic mass and charge. Any monophoton may serve as one of the quanta of a magnetic field. A unity of symmetry laws of elementary monoparticles splits one monophoton state into a mononeutrino pair. Another monophoton state of the same magnetic field is split into a mononeutron pair. Thus, the monophoton field is transformed into a monoatomic field so that its monoquanta Fn_1^1 and $\bar{F}n_1^1$, namely, the Al-Fargoniy monohydrogen and antimonohydrogen relate one pair of mononeutrinos to another pair of mononeutrons as a consequence of a grand synthesis of mononuclei. If an atom now interacts with a magnetic field, it can be converted at first into a monoatom and, next, the latter at the new level encounters quanta of this field. The set of collisions carrying out in a monoatomic field constitutes a monoisotopic family that was identified by Zeeman as a splitting of the spectral lines of an atom in a magnetic field.

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